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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,319	02/07/2002	Swati Deshmukh	19903.0016	7037

23517 7590 03/27/2006

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EXAMINER

NGUYEN, QUANG N

ART UNIT PAPER NUMBER

2141

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/067,319

Applicant(s)

DESHMUKH ET AL.

Examiner

Quang N. Nguyen

Art Unit

2141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,16,17,32,33 and 48-81 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,16,17,32,33 and 48-81 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Detailed Action

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/24/2006 has been entered.

Claims 1, 17, 33, 52-53, 63-64 and 74-75 have been amended. Claims 2-15, 18-31 and 34-47 have been cancelled. Claims 1, 16-17, 32-33 and 48-81 are presented for examination.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claim 33 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

4. As to claim 33, the recited limitation “computer program instructions, recorded on the computer readable medium, executable by a processor, for performing the steps of” is nonstatutory because “computer readable medium” is not limited to tangible embodiments. In view of Applicant’s disclosure on page 24, lines 7-9, “Examples of computer readable media include recordable-type such as floppy disc, a hard disk drive, RAM, and CD-ROM’s, as well as transmission-type media, such as digital and analog communications links”. Since the transmission-type media such as digital and analog communications links may include “modulated data signal”, “carrier-wave signal”, and other wired and wireless media such as acoustic, RF (radio frequency), infrared, etc., as such, the claim is not limited to statutory subject matter and is therefore nonstatutory.

To overcome this type of 101 rejection, Examiner respectfully suggests Applicants to amend the claim to include computer readable storage media/medium to store computer program instructions executable by a computer processor to perform the steps of (for example, the claim should be amended as “computer program instructions, recorded on the computer readable storage medium, executable by a processor, for performing the steps of). See MPEP 2105, section IV. -- DETERMINE WHETHER THE CLAIMED INVENTION COMPLIES WITH 35 U.S.C. 101 – under subsection 1. Nonstatutory subject matter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 16-17, 32-33 and 48-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ackroyd (US 2003/0131256 A1), hereinafter "Ackroyd", in view of Hansen et al. (US 6,493,755), hereinafter "Hansen".**

7. As to claim 1, Ackroyd teaches a method of reporting malware events, comprising the steps of:

detecting a plurality of malware events each with one of a plurality of levels using a malware scanner, the plurality of malware events comprising completion of a malware scan, a process failure relating to malware scanning, a missing log file, detection of malware, and failure of a response to malware *(receiving logged data messages indicating detection of malware items/events by the malware scanners operating at various different servers and client computers, for example, the policy organizing server 32 has detected four logged data messages corresponding to a particular item of malware from computers running the most up-to-date version of the virus definition data and also detects the pattern that none of these originate from a computer running out-of data malware definition data, i.e., failure)* (Ackroyd, paragraphs [0025] and [0030]);

determining a level of a detected malware event (*identifying patterns of malware detection, for example, detecting a particular Trojan infection occurring within computers connected to a particular department server 4*) (Ackroyd, paragraphs [0027-0029] and [0032]);

comparing the level of the detected malware event to an event trigger threshold with one of a plurality of levels (*at step 48, a determination is made as to whether or not any of the thresholds has been exceeded or any of the patterns matched*) (Ackroyd, paragraphs [0027-0029]); and

transmitting a notification of the detected malware event, based on the comparison of the level of the detected malware event to the event trigger threshold (*if thresholds have been exceeded or patterns matched, then one or more predefined anti-malware actions are triggered and will be directed to the appropriate problem area within the network concerned*) (Ackroyd, paragraphs [0027-0029]);

wherein the level of the detected malware event **comprises one of:** informational malware events requiring no operator intervention; warning malware events that indicate a process failure; minor malware events that require attention, but are not events that could lead to loss of data; major malware events that need operator attention; critical malware events that need immediate operator attention and could lead to loss of data if not corrected (*for example, a particular preferred anti-malware action maybe triggered in response to a detected malware event is to issue a log data message back to the policy organizing server (as an informational or warning malware event); to force an update of malware definition data being used (as a minor malware*

event); to deal with the malware by disinfecting, repairing or deleting the infected files or emails as appropriate (as a major malware event) and possibly isolating one or more portions of the computer network from the rest of the computer network in order to isolate a malware outbreak, to protect the rest of the computer network from infection by the malware spreading to them from the already infected department (as a critical malware event)) (Ackroyd, paragraphs [0030-0032]);

wherein the level of the event trigger threshold **comprises one of**: informational malware events requiring no operator intervention; warning malware events that indicate a process failure; minor malware events that require attention, but are not events that could lead to loss of data; major malware events that need operator attention; critical malware events that need immediate operator attention and could lead to loss of data if not corrected *(for example, when any of the thresholds has been exceeded or any of the patterns matched, a particular preferred anti-malware action maybe triggered is to issue a log data message back to the policy organizing server (as an informational or warning malware event); to force an update of malware definition data being used (as a minor malware event); to deal with the malware by disinfecting, repairing or deleting the infected files or emails as appropriate (as a major malware event) and possibly isolating one or more portions of the computer network from the rest of the computer network in order to isolate a malware outbreak, to protect the rest of the computer network from infection by the malware spreading to them from the already infected department (as a critical malware event)) (Ackroyd, paragraphs [0030-0032]);*

However, Ackroyd does not explicitly teaches transmitting the notification of the detected malware event in real-time, if the level of the detected malware event is greater than or equal to the event trigger threshold; and transmitting the notification of the detected malware event eventually, if the level of the detected malware event is less than the event trigger threshold; wherein the event trigger threshold is configurable to control an amount of the notifications that are received in real-time.

In an analogous art, Hansen teaches the computer network management and automatically defining conditions under which a user/administrator is notified of network activity, wherein notification rules would include notification actions specified by the administrator, including executing a script at the server location, reporting the particular event occurrence on a separate event log saved in the network management software, *(i.e., these notification actions could be implemented in real-time and/or eventually)* indicating a change in the state of the device by creating a sound on the host computer, sending an email to a remote address, and sending a page to the administrator's pager when a pre-selected network event occurs *(i.e., these notification actions usually being implemented in real-time when a particular predefined network event, to which the threshold has been met or exceeded, occurs)*. In addition, Hansen teaches a corresponding alarm severity class/level can be set to limit triggering of the notification rule based on the extend to which the threshold has been exceeded, for example, **cleared** (or informational), **indeterminate** (or warning), **minor**, **major** and **critical** alarm classes/levels. Specially, the administrator is able to configure the notification function provided by the management software to limit notification, or device status reporting

(i.e., *configurable to control an amount of the notifications*), to only those instances in which a particular predefined network event occurs (Hansen, C1: L40-43, C1:L57 – C2:L44 and C4: L20-38).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Ackroyd and Hansen to include transmitting the notification of the detected malware event in real-time, if the level of the detected malware event is greater than or equal to the event trigger threshold; and transmitting the notification of the detected malware event eventually, if the level of the detected malware event is less than the event trigger threshold; wherein the event trigger threshold is configurable to control an amount of the notifications that are received in real-time since such methods were conventionally employed in the art to allow the system to detect and handle malware in a networked environment and to reduce network traffic by limiting notification, or device status reporting to only those instances in which certain pre-selected network events occur (Hansen, C4: L20-38).

8. As to claim 16, Ackroyd-Hansen teaches the method of claim 1, further comprising the step of transmitting an alert to an administrator indicating occurrence of the detected malware in real-time, if the level of the detected malware event is greater than or equal to the event trigger threshold (i.e., creating a sound on the host computer, sending an email to a remote address, and sending a page to the administrator's pager when a certain pre-selected network event occurs) (Hansen, C2: L31-44).

9. As to claims 49-50, Ackroyd-Hansen teaches the method of claim 1, wherein the event trigger threshold is set at a management server by setting policies in the malware management program (*the administrator 12 is able to request the network management software 14 to execute a notification action only when a pre-selected event occurs*) (Hansen, C4: L20-38).

10. As to claim 51, Ackroyd-Hansen teaches the method of claim 1, wherein the event trigger threshold is distributed to a plurality of malware agents residing in a plurality of user systems (*malware scanners/agents operating on client computers*).

11. As to claims 52-53, Ackroyd-Hansen teaches the method of claim 1, wherein if the level of the detected malware event is less than the event trigger threshold, the notification of the event is not transmitted until an eventual periodic event transmission or until a request by a management server is received (*the system waits for predetermined regular times to occur at which, i.e., periodically the policy organizing server 32 issues appropriate queries to the database to generate the predetermined reports which are then compared with predetermined patterns and network-wide threshold to trigger predefined anti-malware actions*) (Ackroyd, paragraphs [0027-0029]).

12. As to claims 54-59, Ackroyd-Hansen teaches the method of claim 1, wherein the level of the event trigger threshold is selected from a ranked set of levels including, from least critical to most critical with progressively greater levels, as follows cleared (*or informational*), indeterminate (*or warning*), minor, major and critical (*as alarm severity classes/levels*) (Hansen, C1:L49 – C2:L2).

13. Claims 17, 32 and 60-70 are corresponding system claims of method claims 1, 16 and 49-59; therefore, they are rejected under the same rationale.

14. Claims 33, 48 and 71-81 are corresponding computer program product claims of method claims 1, 16 and 49-59; therefore, they are rejected under the same rationale.

Response to Arguments

15. In the remarks, Applicants argued in substance that

(A) Prior Arts do not teach or suggest “wherein the level of the detected malware event comprises one of: informational malware events requiring no operator intervention; warning malware events that indicate a process failure; minor malware events that require attention, but are not events that could lead to loss of data; major malware events that need operator attention; critical malware events that need immediate operator attention and could lead to loss of data if not corrected”, as claimed.

As to point (A), Ackroyd teaches patterns of malware detections (*i.e., level of detected malware event*) and associated anti-malware actions, for example, a particular preferred anti-malware action maybe triggered in response to a detected malware event is to issue a log data message back to the policy organizing server (implemented/read as an informational or warning malware event); to force an update of malware definition data being used (implemented/read as a minor malware event); to deal with the malware by disinfecting, repairing or deleting the infected files or emails as appropriate (implemented/read as a major malware event) and possibly isolating one or more portions of the computer network from the rest of the computer network in order to isolate a malware outbreak, to protect the rest of the computer network from infection by the malware spreading to them from the already infected department (implemented/read as a critical malware event) (Ackroyd, paragraphs [0030-0032]).

(B) Applicant argued that *the notification rules disclosed in Hansen only relate to the thresholds of "a number of dropped or lost data packets". Thus, the alarm threshold conditions and the alarm severity classes are only based on a threshold of a number of dropped packets. Clearly, such threshold in Hansen does not meet applicant's claimed "level of the detected malware event" (cited from page 13 of the Applicant's Remarks filed on 01/24/2006).*

As to point (B), Hansen teaches a system and method for providing automatic notification of an event (*which could be any network event such as network failure, device failure, detecting virus/malware, etc., not just limited to "a number of dropped or*

lost data packets” which is just for exemplary purposes) caused by a change in the state/status of a device connected to a network, wherein the present state/status, at any given time, is reported to a network management application which executes a notification action when the device activity satisfies a set of predetermined conditions, collectively termed a notification rule (Hansen, C2: L60-67). Therefore, Examiner respectfully submits that Applicant should review the Hansen’s invention as a whole, and the rejections are based on the combinations for references (wherein the “level of the detected malware event” is addressed by the Ackroyd’s reference).

Also, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

(C) Prior Arts do not teach or suggest, “the event trigger threshold is configurable to control an amount of the notifications that are received in real-time”, as claimed.

As to point (C), Hansen teaches that an administrator 20 is **able to configure the notification function** provided by the management software **to limit notification, or device status reporting**, to only instances (*i.e., to some event trigger thresholds*) in which a network event occurs. Most generally, a network event represents a change in status of a device being monitored. Therefore, the administrator 20 is able to request

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the network management software to execute a notification action only when a preselected event occurs (*i.e., executing a notification action according to some predefined event trigger threshold*). To achieve this notification for specific network occurrences, the network administrator 20 configures the network management software by defining a set of event conditions (*i.e., defining a set of event trigger thresholds*) that describe the particular state upon which notification will occur. Therefore, the network management software allows the user or administrator 20 to receive notification of certain preselected events that occur on the network (*i.e., allowing the administrator to control an amount of the notifications*) (Hansen, C4: L20-35).

16. Applicant's arguments as well as request for reconsideration filed on 01/24/2006 have been fully considered but they are not deemed to be persuasive.


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17. A shortened statutory period for reply to this action is set to expire THREE (3) months from the mailing date of this communication. See 37 CFR 1.134.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Nguyen whose telephone number is (571) 272-3886.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Rupal Dharia, can be reached at (571) 272-3880. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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